

1 After the locale is selected, a type is selected (Step 170). The type may include
2 standard (auto), pedestrian, aircraft, bicycle, etc. Other types may be defined.

3 After the type is specified, an accuracy level is selected (Step 172). Levels may
4 be specified in general terms (e.g., "high", "medium" or "low") or specific terms (e.g., 1
5 meter, 5 meter, 100 meter).

6 Once the locale, type, and accuracy levels are specified, data are retrieved from
7 the master geographic database 100 that match the specified criteria (Step 173). For
8 example, a spatial query is used to identify and retrieve data records that represent
9 geographic features located in the specified locale. Similarly, other queries are used to
10 limit the retrieved data to only those records of the specified type and accuracy.

11 Once the data that meet the specified criteria have been obtained from the master
12 database 100, the data are organized into an appropriate format (Step 174). This may
13 include compiling the data into a format in which it can be accessed and used in a
14 computer game running on a given hardware platform. This process may include the
15 formation of new types of data, the addition of indexes, parcelization, spatial organization
16 and compression. Processes for forming a compiled database product are described in
17 U.S. Pat. Nos. 5,974,419, 5,953,722, 5,968,109 and 6,047,280, the entire disclosures of
18 which are incorporated by reference herein.

19 (In addition to including map database products that represent actual, real world
20 locales, the map products inventory may include map products that represent imaginary
21 locales. These imaginary locales may be produced using the embodiments described in
22 the copending application entitled "GEOGRAPHIC AREA TEMPLATES FOR
23 COMPUTER GAMES", ^{10/798,632} ~~Attorney Docket No. N0186US~~, the entire disclosure of which
24 is incorporated by reference herein.)

25 Referring again to Figure 3, the game factory system 150 also includes the road
26 models inventory 178. The road models inventory 178 includes a plurality of road model
27 databases. The data in the road model databases include representations used for visual
28 appearance and rendering of road-related things, such as road colors, road pavement, lane
29 stripes, curbs, sidewalks, signs, lampposts, lane dividers, traffic signals, speed bumps,
30 crosswalks, and so on. When forming a computer game, these road model
31 representations are associated with the data representation of the road network obtained

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1 COMPUTER GAME DEVELOPMENT
2 FACTORY SYSTEM AND METHOD

3 REFERENCE TO RELATED APPLICATIONS

4 The present application is related to copending patent applications entitled
5 "METHOD AND SYSTEM FOR USING GEOGRAPHIC DATA IN COMPUTER
6 GAME DEVELOPMENT" ^{10/798,459,} ~~Attorney Docket No. N0184US~~, "APPLICATION
7 PROGRAMMING INTERFACE FOR GEOGRAPHIC DATA IN COMPUTER
8 GAMES", ^{10/798,531,} ~~Attorney Docket No. N0185US~~, and "GEOGRAPHIC AREA TEMPLATES
9 FOR COMPUTER GAMES", ^{10/798,632,} ~~Attorney Docket No. N0186US~~, the entire disclosures of
10 which are incorporated by reference herein.

11
12 BACKGROUND OF THE INVENTION

13 The present invention relates to a system and method that facilitate development
14 of computer games and more particularly, a system and method that facilitate
15 development of computer games that include representations of geographic areas,
16 including such features as the road networks in the geographic areas.

17 Computer games have developed in sophistication and commercial importance.
18 Improvements in computer hardware and software have enabled computer games to
19 provide realistic graphics and sound. With these advances, computer game users have
20 come to expect that games meet high standards for richness and attention to detail. Some
21 computer games, such as road race games, represent real world places as part of the
22 playing scenarios of the games. With these types of games, users expect convincing
23 depictions of the real world with attention to accuracy and detail.

24 Computer game developers have recognized the need to provide realistic
25 depictions of actual real world places in computer games. This has placed a burden on
26 computer game developers to obtain the data needed to portray geographic places with
27 realistic detail and accuracy. The collection of such detailed geographic data about real

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